

## Students' attitudes towards elderly and willingness to consider geriatric medicine as a career option: a cross sectional study in a Government Medical College in West Bengal, India

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**Abstract:** *Background:* Medical students occasionally bear an ageist mindset which could be a stumbling block in learning and practicing geriatric care. *Objectives & Methods:* In that context a cross-sectional, descriptive study was conducted among the 3<sup>rd</sup> semester MBBS students in a Government Medical College in Kolkata, India with the objective of identifying the attitude towards the elderly, their willingness to choose geriatrics as a career option and the factors influencing such a decision. The UCLA Geriatric Attitude Scale was used in this study to quantify the above attitude. *Results:* The study revealed that the overall UCLA score of 3.51 indicated a favourable attitude of the students. The proportion of students who came from extended nuclear families, who were non-resident of the home state, whose fathers were educated to less than a professional degree and who had the experience of living with an aged person were significantly more compared to their respective counterparts favouring geriatrics as a career option. The UCLA score also were significantly higher in those subgroups. Multivariate analysis revealed that presence of an elderly in the family was the most important factor behind scoring highly in UCLA scale (AOR = 10.763; 95% C.I. 0.469 – 246.82). *Conclusion:* The changing world order of living warrants curricular inputs for the MBBS students for improved care to the elderly.

**Keywords:** Career Option, Geriatrics, UCLA, Factors related.

### Introduction

Discoveries in medical science and improved social conditions during past few decades have increased the life span of man. The expectation of life at birth in developed countries is over 70 years. This increasing trend is now much obvious in developing countries too. By 2025, the number of elderly people (>60 years) is expected to rise more than 1.2 billion with about 840 million of these in low-income countries [1]. In India, although the percentages of aged persons to the total population is low in comparison to the developed countries, nevertheless, the absolute size of the aged population is considerable. For the year 2010 the estimates are 8% of the population were above age of 60 years and is likely to rise to 19% by 2050 [2]. This increase in the geriatric population will have important consequences and implications for planning in the field of medicine. The care of the aged or clinical gerontology was born on the one hand out of the

instincts of humanitarian and social attitudes and on the other out of the problems set by the increasing number of old people [3].

Some of the challenges associated with care of the elderly include altered mentation, atypical presentation of the diseases, complex pharmacological interactions and the increased likelihood of co-morbidities. Specific communication barriers may lead to inability or failure of patients to report their symptoms and to provide accurate, consistent medical history [4]. Ultimately, this can make the assessment difficult and frustrating and thus influence the attitude of the health care professionals [5]. As such the health care professionals need to be able to adapt their practice to meet the physical, social, psychological, cognitive and emotional challenges associated with these patients. So it is not just expansion of geriatric specialists that is important, an improvement in attitudes,

knowledge, and skills of all physicians is essential when caring for the elderly in everyday practice, no matter what the speciality is [6]. Therefore it is important that medical students of today should be prepared for inevitable demographic changes of tomorrow. However, some of these future physicians have negative preconceived attitudes and ideas about the care of the elderly. Unfortunately, these attitudes probably can affect their eventual management of patients [7].

Regardless of the speciality of choice, improving attitudes towards geriatrics is important in caring for ageing population. Negative or ageist attitudes have the potential to adversely affect the quality of care provided. Ageism is defined as the systematic stereotyping of, and discrimination against people, because they are old. It often leads individual to view older adults as unproductive, depressing, sickly and to believe that cognitive impairment is normative by reinforcing stereotypical beliefs [8]. These judgment therefore affect overall patient assessment, the quality of treatment provided, resources allocated and over all patients outcome. Current research suggest that improving attitudes is cornerstone to improving care as attitudes influence how information is interpreted, how knowledge is acquired and ultimately lead to changes in behaviour and practice.

Current research also indicates that students who receive special education & training in elderly patient management are able to build their knowledge base and ultimately improve their level of care [9]. Further research examining the link between training and attitudes towards the elderly is important as health care profession students often form unfavorable attitudes and ageist beliefs during their education [10] and this therefore, represents an opportune time to have the greatest impact in mind setting. It is important to identify the attitudes of medical students and health care professionals towards the elderly, especially in recognizing negative attitudes towards ageing as studies have shown that the negative attitudes may be amenable to change [11]. Health care systems will also need to prepare their primary health care personnel as well as other levels of health care staff for this massive demographic and societal change [6]. The different aspects of aging need to be more

fully incorporated into the training curriculum of all health professions [12]. The research works on all these societal aspects of medical science are really scarce and handful in India, particularly in this eastern region. So an attempt has been made by the investigators, to identify the attitudes of third semester medical students towards the elderly and to find out their willingness at this tender age to choose geriatric medicine as a career option in future, in a Government Medical College located in the outskirts of Kolkata, West Bengal. The investigators further tried to explore the various socio-demographic factors which might have a potential influence governing students' interest in geriatric medicine as a career option.

### Material and Methods

This was a cross sectional study using a standard self-administered questionnaire. All 3<sup>rd</sup> semester MBBS students, prior to any formal clinical ward posting in their curriculum; were invited to participate voluntarily in the study. The study inquired about their attitudes towards elderly people and their willingness to consider "Geriatric medicine" as a potential career choice in future. The study was conducted in August to September 2015. The study had clearance from the institutional ethics committee of College of Medicine and Sagore Dutta Hospital.

The University of California, Los Angeles (UCLA) Geriatric Attitude Scale has been validated for measuring attitudes towards older patients amongst primary care residents in the United States [13] and it has been validated for use in the medical students [8]. The same scale has been used in the study with few minor modifications to adapt the questionnaire to the local context. The UCLA Geriatric Attitude Scale is a global measure of an individual's attitude towards older adults in the society and their care. It consists of a mixture of fourteen positively and negatively worded questions answered on a five - point Likert scale ranging from "strongly disagree (1 point)" to "strongly agree (5 point)" and a rating midway (3points) indicating a neutral response.

Scores were tabulated in a pattern which was followed in Ruben et al 's original article where scores on negatively worded statements were reversed before being added to scores on positively worded statements to produce a total scores. A fifteenth question was included at the end of the questionnaire asking about the students' willingness to consider geriatrics medicine as a potential choice of career. Basic demographic details including the students' gender, age, religion, state of origin, type of family, education, and occupation of parents, per capita monthly income of the family and prior experience in any chronically ill elderly kin were also collated in the questionnaire sheet prior to the UCLA scale.

The SPSS programme (Statistical Package for the Social Sciences, version 20.0.0, IBM corporation, USA) was used for data storage, tabulation and analysis. Z test for proportion was used to compare the proportion of different student related variables in those in favour of a care in geriatrics medicine. Kruskal- Wallis non-parametric statistical test was applied to compare median values of UCLA scores between various students' related variables. Statistical significance was assumed if  $p < 0.05$ .

### Results

This study was conducted over 94 students enrolled in 3<sup>rd</sup> semester of the medical college. They were administered the questionnaire containing a general query of whether they wanted to opt for a career in geriatrics. The response to this question was analyzed according to the different socio-demographic and economic characteristics of the students.

The findings are summarized in Table no. 1; which shows that 68% of female students, 60.42% of those who came from the background of joint (or extended nuclear) families, 86.67% of those who were non resident of the home state, 61.82% of those whose fathers had been educated to the level of graduation only, 63.16% of those whose mothers had studied above graduation level, 57.57% of those whose fathers either had a business or were self employed, 63.16% of those whose mothers were home makers and 79.17% of those who had the presence of an elderly person in their own families were the majority group favouring geriatrics as a career option compared to the respective counterpart groups.

**Table-1: Difference in student related variables in those in favour of a career in Geriatrics**

Variables		No.	Proportion (%)	Z Score	Significance*
Gender	Female (n=48)	29	68	1.643	0.101
	Male (n=46)	20	34.09		
Family type	Joint (n=50)	34	60.42	3.2839	0.001*
	Nuclear (n=44)	15	43.48		
Residence	Non-WB (n=15)	13	86.67	2.921	0.003*
	WB (n=79)	36	45.60		
Father's Education	Graduation (n=55)	34	61.82	2.233	0.02*
	P G & Professional (n=39)	15	38.46		
Mother's Education	Graduation (n=75)	37	49.33	1.077	0.28
	P G (n=19)	12	63.16		
Father's Occupation	Service (n=61)	30	49.18	0.777	0.435
	Business / Self-emplmt. (n=33)	19	57.57		
Mother's Occupation	Home Maker (n=75)	37	49.33	1.077	0.28
	Working (n=19)	12	63.16		
Income Quartiles	First (n=26)	14	53.84	0.138	0.889
	Second (n=29)	15	51.72		
	Third (n=15)	9	60.0		
	Fourth (n=24)	11	45.83		
Presence of Elderly pers.	Yes (n=48)	38	79.17	5.361	0.000*
	No (n=46)	11	23.91		

\*Statistically significant on Z test for proportion at  $p < 0.05$

The range of per capita family income of these students was INR 7,000 to INR 80,000. Favouring a career in Geriatrics was most prevalent among the third quartile of the income range (between INR 25,001 - INR 33,333). In this bivariate analysis; type of family (joint family over nuclear family), residence (residents of other states over the home states), Father's education (graduation over post-graduation and professional courses) and factor of presence of an elderly person in the respective families of the students (present over absent) had been the variables where the differences were statistically significant (the exact scores shown in the table).

The UCLA scores of the individual students were computed as well to assess the quantitative measure of their choice towards Geriatrics. It revealed that the overall mean UCLA score of the group of students under study was 3.51 with a standard deviation of 0.6; signifying a favourable attitude towards care of elderly.

However UCLA scores were not identical among the students according to their inherent variables. The respective UCLA scores in every group are revealed in table 2. The median UCLA score has been more than three, which is the cut-off value for one being favourable toward Geriatrics; in each of the different socio-demographic and economic variables. The score was most among those from outside the home state (4.142), of those whose mothers had been working (4.286) and in those with an elderly person (4.0). Median UCLA score has been significantly different between students from nuclear and joint families, between those from outside and home state, between if father's education is higher and lower of graduation level and if or not their families of origin had an elderly person present there. The differences have been significant in those factors where the expressed intention toward Geriatrics as well.

**Table-2: Pattern of Median Values of UCLA Scores according to different variables related to the students**

Variables		Median UCLA	IQR	X <sup>2</sup>	Significance*
Gender	Female	3.714	0.892	2.254	p>0.05
	Male	3.357	1.071		
Family type	Joint	3.714	0.928	39.898	p<0.001
	Nuclear	3.107	0.857		
Residence	Non-WB	4.142	0.5	10.746	P<0.01
	WB	3.428	1.0		
Father's Education	Graduation	3.713	0.928	8.123	p<0.05
	P G & Professional	3.357	1.143		
Mother's Education	Graduation	3.571	1.143	0.589	p>0.05
	P G	3.571	0.786		
Father's Occupation	Service	3.571	1.107	0.002	p>0.05
	Business / Self-emplmt.	3.571	0.984		
Mother's Occupation	Home Maker	3.535	1.0	2.577	p>0.05
	Working	4.286	1.286		
Income Quartiles	First	3.679	0.786	1.824	p>0.05
	Second	3.571	1.107		
	Third	3.714	1.214		
	Fourth	3.286	1.071		
Presence of Elderly pers.	Yes	4.0	0.536	38.144	p<0.001
	No	3.071	0.678		
Geriatrics as career choice	In favour	4.143	0.571	34.272	p<0.001
	Not in favour	3.0	0.679		

\*Kruskal-Wallis' non-parametric statistical test applied

Dichotomizing the outcome between those having equal to or less than 3 as median UCLA score as not favouring geriatrics and those having median UCLA score of more than 3 as favouring geriatrics as career option; we did logistic regression to find out the relative importance of the input variables. The model performed well as indicated by goodness of fit test from significant omnibus chi-square statistic (32.178,  $p < 0.001$ ) and non-significant Hosmer-Lemeshow statistic (13.626,  $p = 0.092$ ).

The Cox and Snell R square and Nagelkerke R square statistic had been 0.290 and 0.415; signifying satisfactory explanation of the output by the factors included in the model. Though none of the factors could retain statistical significance after regression; but the Adjusted Odds Ratio (AOR) was found to be most (10.763, 95% CI: 0.469 - 246.82) with the concurrent presence of an elderly person in the family. The AOR for the other variables which were significant in bivariate analysis; had been 1.364 (95% C.I. 0.068 - 26.815) for if the student came from a joint family; 6.196 (95% C.I. 0.615 - 62.231) for if the student was a non-resident of the home state and 0.656 (95% C.I. 0.123 - 3.744) for if the father was educated to any level above graduation. The last factor; thus was one of the deterring factors towards choosing geriatrics as career.

### Discussion

This cross-sectional study on the aspiring medical graduates of a medical college reveals the current attitude of the medical students towards the elderly. The mean UCLA score of 3.51 is quite comparable to similar studies conducted in Singapore; where the figure was 3.58 [14]. Elsewhere in Great Britain and in the United States the score was found to be little higher, 3.69 and 3.90 respectively [8, 15]. But in India, the dental students scored even less, 3.44, in Meerut [16]. Female students showed greater attraction towards geriatrics compared to their male counterparts; though the difference was not statistically significant. A very similar finding was noted among the Singaporean students [14].

There has been contrasting reports regarding female students favouring Geriatrics; in Canada and the United States, the relationship was

positive, but in some others, no such association could be found [15, 17-18]. The meta-analysis carried out in this regard had found such contrasting finding as well [19]. But as reported by them as well; it needs qualitative studies to find out the possible reason of this. Probably the nature of care needed in geriatrics is less appealing to the male attitude in general [14].

The finding that the local students favoured geriatrics less often compared to those who came from outside the state was a significant one. Literature is not abundant chipping in with possible explanation of such a revelation. But students coming from outside the state were all away from their families and the resultant somberness might have prompted them to feel everything about a family to be adored, including caring the elderly. The grey literature makes us believe in such thoughts as published in social blogs of United States [20]. Even then, there remains a possibility to find out if there is any spatial difference existed about the attitude under study.

As a continuum of the above principle, it might be commented that the reason of additional interest about geriatrics among those who had experienced company of an elderly person could be very similar. This particular finding was revealed in the study conducted in Michigan, USA, as well [18]. Joint families, described here as those having some horizontal or vertical extension over a basic nuclear family; usually had an elderly person in those. So students coming from such families had an experience of living together with an elderly person. The reason that the attitudes towards elderly were better with those coming from a joint family background could be explained in the same vein. On the other hand, from the perspective of the elderly, it has been commented that loss of traditional values of erstwhile extended nuclear families pose burdens on the quality of life of the elderly persons [21-22].

So from either way we look at the finding; it seems quite understandable that students with a history of living with an elderly person back home, would consider geriatrics more positively compared to those who did not.

It has been documented in literature that elderly persons with higher educational status tend not to cohabit with their children, presumably because of the economic independence [23]. There is no dearth of literature suggesting higher parental education ensured better academic achievement of the children of the same family [24]. So in effect; such families with high and professional education of the father or mother might be the ones devoid of any elderly persons living together. This may explain the finding that there is significant UCLA score difference between if the father was highly educated or a professional and a child from such a family had almost half a possibility to choose geriatrics as a career, compared to when the father was less educated.

However, some concern has been floated in the blog that such parents sometimes 'overcompensates' for their lack of time for their children which, in turn, make the children generally incompassionate. Compassion is agreed to be an attribute closely linked with choosing geriatrics [25]. Careful history taking, long sessions of active listening and very accurate clinical examination of an aged person is less appealing judging against the 'high-tech, sexy, dramatic interventions' used elsewhere [26].

The reason of finding a higher UCLA score in case of if the mothers had been working (4.286 versus 3.535) could not be explained from the descriptive study design adopted. There could be some confounding contributing to it or it might need exploratory research to clarify the issue. Income of the family of origin of the students did not pose to be a determinant in the choice; neither the recent meta-analysis in this regard could find any such association in the studies [19]. So overall, the results of the study concluded that the

attitude of the junior medical students towards geriatrics as a career option has just been positive in the medical teaching institution this research had been conducted. Though it has been seen that such attitude does change in course of advancement in the medical course; but the results certainly provided us with a baseline data about the state of affairs in the study area [26]. The stakeholders might also take note of the different related factors that are for and against of such attitude of the students to chalk up plans as to where and how improvements would be necessarily implemented.

It is a pity that in India; and in many other similar developing economies; the medical curriculum is concerned only about the teaching courses and their methodologies. It has almost never realized that the mindset among the students must be conducive to master the art of medical science; without which the exercise of going through the curriculum may prove less fruitful. There are a few branches of medicine which demand this art even more and geriatrics is one of them. The current study revealed the favourable factors towards a willful choice of Geriatrics. But in the modern era these factors are fast becoming rare [21].

So; considering the growing importance of the geriatrics in these countries; the teaching curriculum could incorporate certain topics which specifically focus on improving the attitude of the students towards this subject even in the changing world order of living. This is the only viable means of making care of the elderly better than what it is at present.

## References

1. Thomas V, Lavanya K, Muraleedhar M. Morbidity Profile and Health Seeking Behaviour of the Elderly in Urban Slums of Hyderabad, Andhra Pradesh, India-A Cross Sectional Study. *Int J Cur Res Rev*. 2012; 04(19):174-181.
2. Population Reference Bureau. 2012 World Population Data Sheet. Data available from: [www.prb.org/Publications/Datasheets/2012/world-population-data-sheet.aspx](http://www.prb.org/Publications/Datasheets/2012/world-population-data-sheet.aspx) last accessed on 19.03.2017.
3. Makwana NR, Shah VR, Goswami K, Yadav S. Health Problems in Geriatrics- A Cross Sectional Study. *Journal of Pharmaceutical and Biomedical Sciences*. 2012; 20:1-4.
4. Fleisher FL White LJ, McMullen MJ, Chambers R. The geriatric obstacle course: a training session designed to help prehospital personnel recognize geriatric stereotypes and misconceptions. *J Emerg Med*. 1996; 14(4):439-444.
5. Ross L, Duigan T, Boyle M, Williams B. Student Paramedic Attitudes towards the Elderly: A cross sectional study. *Australasian Journal of Paramedicine*. 2014; 11(3):1-7.

6. Lally F, Crome P. Undergraduate training in geriatric medicine: getting it right. *Age Ageing*. 2007; 36:366-368.
7. Haque AF, Soong DG, Wong CL. Assessing the impact of a Geriatric Clinical Skills Day on Medical Students' attitudes toward Geriatrics. *Canadian Geriatrics Journal*. 2014; 7(1):12-15.
8. Kishimoto M, Nagoshi M, Williams S, Masaki KH, Blanchette PL. Knowledge and attitude about geriatrics of medical students, internal medicine residents and geriatric medicine fellows. *J Am Geriatr Soc*. 2005; 53:99-102.
9. Higgins I, Van Der Riet P, Slater L, Peek C. The negative attitudes of nurses towards older patients in the acute hospital setting: a qualitative descriptive study. *Contempt Nurse*. 2007; 26(92):225-237.
10. Jones JS, Rousseau EW, Schropp MA, Sanders AB. Geriatric training in emergency medicine residency program. *Ann Emerg Med*. 1992; 21(7):825-829.
11. Ragan AM, Bowen AM. Improving attitudes regarding the elderly population: the effects of information and reinforcement for change. *Gerontologist*. 2001; 41:511-515.
12. Deary IJ, Smith R, Mitchell C, MacLennan WJ. Geriatric Medicine-does teaching alter medical students' attitudes to elderly people?. *Med Educ*. 1993; 27:399-405.
13. Reuben DB, Lee M, Davis JW Jr, Eslami MS, Osterweil DG, Melchiorre S, Weintraub NT. Development and validation of a geriatric Attitude Scale for Primary Care Resident. *J Am Geriatr Soc*. 1998; 16:1425-1430.
14. Chua MPW, Chay Hoon Tan CH, Merchant R, Soiza RL. Attitudes of First-year Medical Students in Singapore towards older people and Willingness to Consider a Career in Geriatric Medicine. *Ann Acad Med Singapore*. 2008; 37:947-951.
15. Hughes NJ, Soiza RL, Chua M, Hoyle GE, MacDonald A, Primrose WR et al. Medical student attitudes towards older people and a career in geriatric medicine. *J Am Geriatr Soc*. 2008; 56:334-338.
16. Gupta S, Venkatraman S, Kamarthi N, Goel S, Goel S, Keswani T. Assessment of the attitude of undergraduate dental students toward the geriatric population. *Trop J Med Res*. 2014; 17:104-108.
17. Diachun LL, Hillier LM, Stolee P. Interest in geriatric medicine in Canada: how can we secure a next generation of geriatricians?. *J Am Geriatr Soc*. 2006; 54(3):512-519.
18. Fitzgerald JT, Wray LA, Halter JB, Williams BC, Supiano MA. Relating medical students' knowledge, attitudes, and experience to an interest in geriatric medicine. *Gerontologist*. 2003; 43(6):849-855.
19. Meiboom AA, de Vries H, Hertogh CPM, Scheele F. Why medical students do not choose a career in geriatrics: a systematic review. *BMC Medical Education*. 2015; 15:101.
20. The New York Time. Being There, and Far Away. Information available from <https://newoldage.blogs.nytimes.com/2009/09/04/being-there-and-far-away/> (last accessed on 16.04.2017).
21. Gureje O, Kola L, Afolabi E, Olley BO. Determinants of quality of life of elderly Nigerians: results from the Ibadan Study of Ageing. *Afr J Med Med Sci*. 2008; 37(3):239-247.
22. Arokiasamy JT. Social Problems and Care of the Elderly. *Med J Malaysia*. 1997; 52(3):231-237.
23. Tianyang Liu, Xiaoning Hao, Zhenzhong Zhang. Identifying community healthcare supports for the elderly and the factors affecting their aging care model preference: evidence from three districts of Beijing. *BMC Health Serv Res*. 2016; 16(Suppl 7): 83-92.
24. Dubow EF, Boxer P, Huesmann LR. Long-term Effects of Parents' Education on Children's Educational and Occupational Success: Mediation by Family Interactions, Child Aggression, and Teenage Aspirations. *NIH Public Access*. Available in <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2853053/pdf/nihms140890.pdf> (last accessed on 23.04.2017).
25. Melanie Greenberg. Worst Mistakes Parents Make When Talking to Kids. *Psychology Today*. Information available in <https://www.psychologytoday.com/blog/the-mindful-self-express/201209/worst-mistakes-parents-make-when-talking-kids> (last accessed on 23.04.2017).
26. Maisonneuve JJ, Pulfor C, Lambert TW, Goldacre MJ. Career choices for geriatric medicine: national surveys of graduates of 1974-2009 from all UK medical schools. *Age and Ageing* 2014; 43:535-541.

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